Co-funded by the European Union

DUT Driving Urban Transitions

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Mobility Benefit Districts, a tool for transition?

MBD15: Synthesis Report of WP2 Learning Cases in Darmstadt (Germany), Stockholm (Sweden) and Vienna (Austria)

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1 Introduction

We suggest Mobility Benefit Districts (MBD) as a planning tool to support the socio-ecological transformation of the urban transport system under the umbrella of the '15 min city' target. MBDs are designed to generate financial resources from transport operations (e.g. car parking) in a specific district to spend these to foster the socio-ecological transformation of that specific district (e.g. by subsidizing public transport or car-sharing). Furthermore, MBDs involve local citizens in the decision-making of how to spend the money locally.

To the best of our knowledge, fully operational MBDs do not exist in Europe. Therefore, we analysed our so called 'learning cases' in Austria (Kammerhofer et al. 2025), Germany (Stete et al. 2025) and Sweden (Envall et al 2025) where we observed several *elements of MBDs* (see section 2 below). It is the objective of this synthesis report to draw conclusions from the comparison of our learning case reports from Darmstadt (Germany), Vienna (Austria) and the Swedish cases (Stockholm and others).

This report is structured as follows. First, we compare the MBD elements implemented in the learning cases (section 2) and compare the mobility concepts by parking provision and car-sharing supply (section 3). Next, we present some results regarding the socio-ecological and liveability impacts of the learning cases as well as those regarding acceptability and governance (section 4). Finally, we draw some conclusions from the synthesis of the results (section 5).

2 Elements of Mobility Benefit Districts implemented in the learning cases

For comparing the learning cases in Austria, Germany and Sweden, we derived seven elements of MBDs necessary for the implementation of a MBD. Despite none of the learning cases fully implemented all seven elements, we observed most of them at least in some locations (table 1).

We found the elements 'new developments with lower than usual parking requirements or flexible parking requirements', 'limited provision of on-street parking' and 'on-street parking charges implemented' in all learning cases. Furthermore, 'investments in local mobility services' and 'communication, information and trials' were applied in many cases though there are some variations. For example, in some cases, the communication efforts targeted only citizens; in others, only professional stakeholders (e.g. housing companies) and in others, both.

However, we found the two remaining elements less frequently. The 'parking charges financing mobility services' was only implemented in the Austrian and the German but not in the Swedish learning cases. Even less frequently, are the 'public participation and co-creation (e.g. through participatory budgeting)' though some elements of public participation were implemented in most cases. However, none of the case studies implemented this element completely.

Table 1: Mobility Benefit District elements in the learning cases

Elements	Stockholm NDS study area	Other Swedish learning cases	Darmstadt Lincoln	Vienna Aspern Seestadt	Vienna Sonnwend-viertel
New developments with lower than usual parking requirements or flexible parking requirements	partly	all Swedish learning cases (except the old town)	yes	yes	yes
Limited provision of on-street parking	partly	most Swedish learning cases	yes	yes	yes
On-street parking charges implemented	yes	most Swedish learning cases	yes	yes	yes
Communication, information and trials	yes[1]	only the Haninge house	yes	yes	yes
Investment in local mobility services	limited	most Swedish learning cases	yes	yes, but car-sharing limited	yes
Portion of parking charges financing mobility services	no	no	yes	yes	yes
Public participation and co-creation (e.g. through participatory budgeting)	limited	old town and the Västerås house	partly/ limited	partly/ limited	partly/ limited

Sources: Envall et al (2025), Kammerhofer et al. (2025), Stete et al. (2025)

[1] mainly directed at developers, real estate owners and larger companies/premise tenants

3 Mobility concept and related measures in the learning cases

The mobility concepts in the learning cases combine measures that limit the attractiveness of the disincentivise private car use and ownership (e.g. by limiting the total number of available car-parking, the amount of on-street parking and by increasing the costs of car-parking) with those to increase the attractiveness of alternative modes (e.g. improve cycling and walking conditions, better public transport provision, increased supply of sharing options). Our comparison of the learning cases shows that in many places the monthly costs for parking are relatively high compared to the 'free parking' in many other areas of European cities, and, furthermore, private parking space or subsidized residential parking permits frequently are not available (table 2). Furthermore, though the amount of car-sharing supply differs between the learning cases, there is a relatively high provision in each of the case studies compared to many other urban neighbourhoods, especially in the Royal Seaport in Stockholm (table 3).

Table 2: Parking prices across learning cases and lowest cost for parking a private car.

	Stockholm NDS study area	**Other Swedish learning cases**	**Darmstadt Lincoln**	**Vienna Aspern Seestadt**	**Vienna Sonnwendviertel**
Lowest practical price for parking a private car	110 – 135 EUR per month	Free of charge in some of the learning cases	60 -105 EUR per month (until 2023 some free parking was available)	120 EUR per year (+50 EUR one-time application fee)	
Type of parking with the lowest price	Private underground garage, city-owned surface car park	Public on-street parking	Above-ground car park close to flat (60 EUR)	Public on-street parking with residential parking permit ("Parkpickerl")	
Typical price for private parking bay (per month)	110- 217 EUR	n.a.	Not available	90-114 EUR in publicly accessible collective garages	130 EUR in parking garages
Daily price for on-street parking	15 EUR (weekdays) Sundays free of charge	Free of charge in some of the learning cases	7.50 EUR	Weekdays (9 am - 10 pm): only short-term parking (max. 2 hours) for 5 EUR weekends: free of charge	
Residential parking permits	Not available	Available when on-street parking is not free	Not available	available	
Comment	Limited possibility to find cheaper parking outside the neighbourhood.		To some extent possible to park cheaper outside the neighbourhood (Selzer 2022). On-street parking in area to large extent free of charge until 2023.	In Vienna, without yearly parking permits for residents or companies ("Parkpickerl") only short-term parking is allowed on weekdays. However, the zones for these parking permits are rather big and equal more or less the city districts.	

Sources: Envall et al (2025), Kammerhofer et al. (2025), Stete et al. (2025)

Table 3: Car-sharing vehicles in the learning cases

	Stockholm NDS study area (2024)	**Darmstadt Lincoln (2024)**	**Vienna Aspern Seestadt (2024)**	**Vienna Sonnwendviertel (2024)**
Car-sharing vehicles per 1000 inhabitants	4,3	2,3	0,8	0,8
No of station-based car-sharing vehicles	30	7	11	8
No of residents in city/ neighbourhood	~ 7000	~ 3 000	13.452	~ 10.000
Comment	4 B2C operators. MBD Learning Case	1 B2C operator plus tendered operator (same company). 5 vehicles available for local residents only. MBD Learning Case	3 B2C operators, 1 community-based car-sharing club & individual P2P sharing via getaround platform. MBD Learning Case	2 B2C operators, 2 community-based operators. Additional B2C operator with around 20 cars operator 10 min walk away (ÖBB). MBD Learning Case

Sources: Envall et al (2025), Kammerhofer et al. (2025), Stete et al. (2025)

4 Socio-ecological effects of the learning cases

The socio-ecological impact of the local mobility concept (e.g. car ownership, mode use) was not available for all learning cases. However, in most cases the car ownership rates are available and show that these are frequently lower than in the city average (table 4). For mode use, only data from Austria and Germany are available. In the Vienna learning cases, the modal split of residents shows lower car use and higher use of other modes than the city average. In the learning case, Darmstadt-Lincoln, the share of at least weekly car users is lower and of public transport users and cyclists is higher after the relocation to Lincoln than in the district before the relocation (table 5).

Table 4: Car ownership in the learning cases

	Stockholm NDS study area (2024)	**City of Stockholm (2023)**	**Darmstadt Lincoln (2024)**	**City of Darmstadt**	**Vienna Aspern Seestadt (2022/24)**	**Vienna Sonnwend-viertel-Ost (2022/24)**	**City of Vienna (2024)**
# inhabitants	7.006	~ 989.000	~ 3.000	167.313	13.452	4.350	2.006.134
# households	2.959	480.027	1.201	90.069	5.900	2.050	966.695 (projection)
# inhabitants per household	2,4	2,1	~2,5	~1,9	~2,3	~2,3	~2,0
# registered cars (owned by residents)	1.200	189.293	637	60.346	n.a.	n.a.	572.952
# cars per household	0,41	0,39	0,53	0,67	0,58	0,46	0,59
# cars per inhabitant	0,17	0,19	0,21	0,36	0,242	0,198.	0,29

Sources: Envall et al (2025), Kammerhofer et al. (2025), Stete et al. (2025)

Table 5: Modal split and regular mode use in the learning cases

	Stockholm NDS area (2024)	City of Stockholm (2024)[1]	Darmstadt Lincoln residents (2020-23)	Darmstadt former place of residence of Lincoln residents (2020-23)	City of Darmstadt (2023)	Vienna Aspern Seestadt (2022)	Vienna Sonnwend-viertel[2] (2022)	City of Vienna (2022)
Modal split								
private car	n.a.	19%	n.a.	n.a.	27%	22%	24%	26%
public transport	n.a.	60%	n.a.	n.a.	14%	32%	32%	30%
bicycle	n.a.	8%	n.a.	n.a.	27%	6%	5%	9%
walking	n.a.	12	n.a.	n.a.	32%	40%	39%	35%
Regular mode use (at least weekly)								
private car	n.a.	n.a.	48%	58%	n.a.	n.a.	n.a.	n.a.
public transport	n.a.	n.a.	59%	50%	n.a.	n.a.	n.a.	n.a.
bicycle	n.a.	n.a.	58%	54%	n.a.	n.a.	n.a.	n.a.
walking	n.a.	n.a.	63%	63%	n.a.	n.a.	n.a.	n.a.
Car-sharing	n.a.	n.a.	16%	5%	n.a.	n.a.	n.a.	n.a.

Sources: Envall et al. (2025), Kammerhofer et al. (2025), Stete et al. (2025), Goethe University Survey (2020, 2021, 2023)

[1] The question concerned main transport mode between residence and work/school in February (Origo Group. 2024)

[2] for Sonnwendviertel no specific modal split was available, only for the whole District Favoriten (of which Sonnwendviertel is an atypical part)

5 Conclusions

To conclude, we have seen that these pioneering neighbourhoods, have taken some steps towards a socio-ecological transformation. All these neighbourhoods have lower minimum parking standards and offer shared mobility services. Some of the neighbourhoods also earmark parking revenues for shared mobility through a mobility fund (in Austria and Germany) and there are some citizen participation. However, there are still regulations and subsidies that favour private car use and ownership.

Within these pioneering neighbourhoods minimum parking standards still apply. Developers are required to provide a certain number of parking spaces or pay a contribution to a municipal parking company. However, these parking standards are lower than national averages, and a certain number of parking spaces have been replaced with other shared mobility services (such as bike and car sharing).

Parking spaces are still subsidised in these neighbourhoods. Some of the pioneer neighbourhoods have decoupled parking spaces from housing, as exemplified within the Austrian cases. Parking spaces are provided in garages accessible at the same distance as the nearest public transport stop. Developers must pay € 8000 per parking space to cover the cost of providing parking spaces. Concurrently, they are paying approximately € 1000 per parking space into a mobility fund in the Austrian cases (and 25% of the revenues from parking in Darmstadt), with the purpose of financing shared mobility services. Earmarking parking revenues to a mobility fund is a step forward. Nevertheless, the subsidy for private cars is approximately eight times greater than that for shared mobility services. If the purpose is to promote alternatives to the private car, shouldn't it be the other way around?

Another challenge is to ensure that the provided mobility services remain in place over time. All learning cases provide shared mobility services (such as car and bike sharing) as an alternative to private cars. However, we have seen that these services tend to disappear after an initial guarantee period, at least in the Swedish cases. For a socio-ecological transformation to be successful, it is important that these services remain in place and constitute an alternative to privately owned cars. A mobility fund, where revenues from car parking are earmarked to fund shared mobility services, could ensure enough long-term financing strategy of shared mobility. To date, all learning cases (except the Old Town in Sweden) are in newly built areas. For a socio-ecological transformation to have a large-scale impact, it is also important to transform existing built-up areas. Earmarking revenues from on- and off-street parking to shared mobility may be one way to also work within existing neighbourhoods.

Furthermore, insights from these pioneering neighbourhoods with mobility funds highlight the administrative hurdles that may arise in establishing, managing and utilising the mobility fund. There are also legal challenges that limits what revenues from parking charges can finance, both at an EU and national levels. These legal challenges need to be addressed if Mobility Benefit Districts are to be implemented on a larger scale.

Finally, we would like to highlight that the Mobility Benefit District concept seems to have a large potential to scale up the transformation to low-carbon mobility. One interesting example we would like to highlight is the car sharing cheque used in Lincoln, Darmstadt. Residents in Lincoln receive € 30 per month from the mobility fund for the use of car sharing. Could a similar mobility cheque, that includes a range of mobility service including public transport, be offered? There is a lack of empirical research on these planning principles and in the continuing work with Mobility Benefit Districts, we will test these principles in living and transfer labs in Vienna, Darmstadt and Sundbyberg. We will also evaluate the impact on Mobility Benefit District principles on car ownership and use, liveability, acceptance and governance issues.

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